The University Of Sheffield.

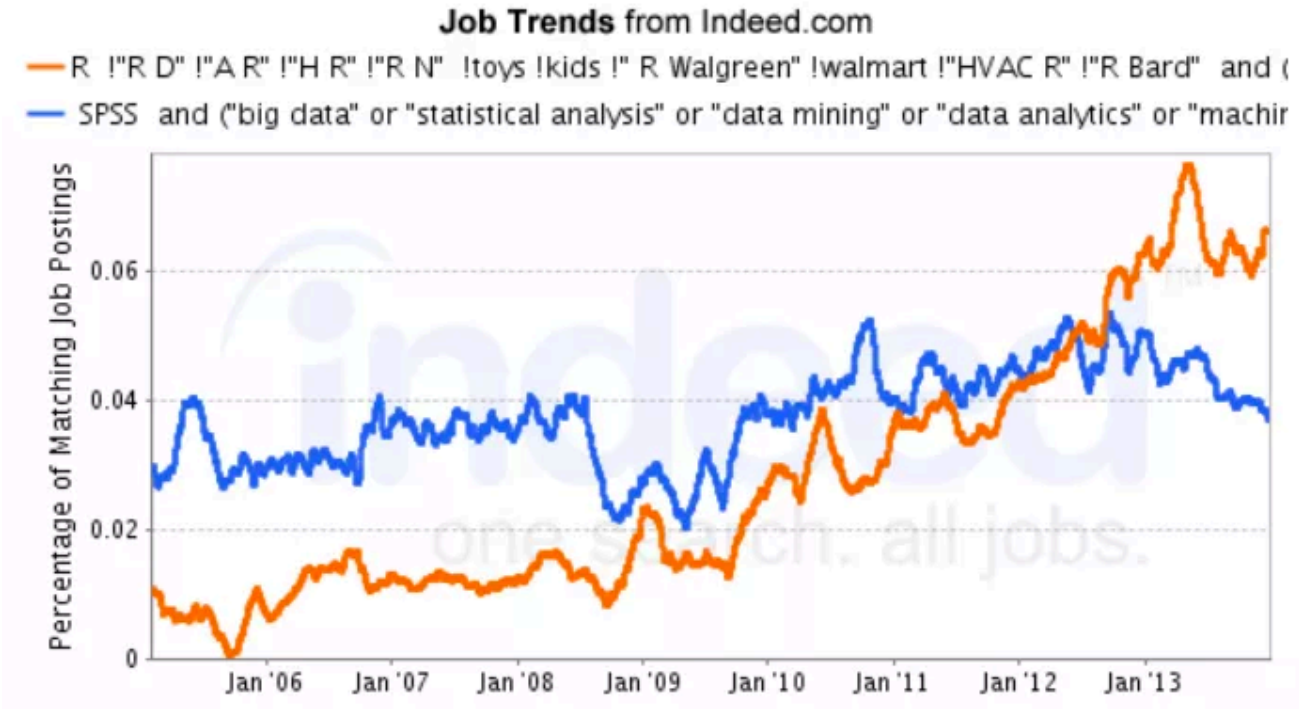
BMS 353
Bioinformatics for Biomedical Science

Module coordinator: Dr Marta Milo
Research Software Instructor: Dr Mike Croucher

The University Of Sheffield.

An Introduction to the tools we'll be using

R is a free language and environment for statistical computing and graphics.



How popular is R? http://r4stats.com/articles/popularity/

THE 1ST STUDENT EXPERIENCE SURVEY 2014-15

The University Of Sheffield.

An Introduction to the tools we'll be using

Packages
Save time by using other people's code.

Comprehensive R Archive Network (CRAN)
7468 packages (November 2015)
https://cran.r-project.org/web/packages/

Bioconductor
1104 packages (November 2015)
https://www.bioconductor.org/

The University Of Sheffield.

An Introduction to the tools we'll be using

Packages
Save time by using other people's code.

Comprehensive R Archive Network (CRAN)
9262 packages (October 2016)
https://cran.r-project.org/web/packages/

Bioconductor
OPEN SOURCE SOFTWARE FOR BIOINFORMATICS

Bioconductor
1211 packages (October 2016)
https://www.bioconductor.org/

The University Of Sheffield.

An Introduction to the tools we'll be using

Open source, interactive data science and scientific computing across over 40 programming languages.

The University Of Sheffield.

jupyter

An Introduction to the tools we'll be using

Currently in use at

The University Of Sheffield.

An Introduction to the tools we'll be using

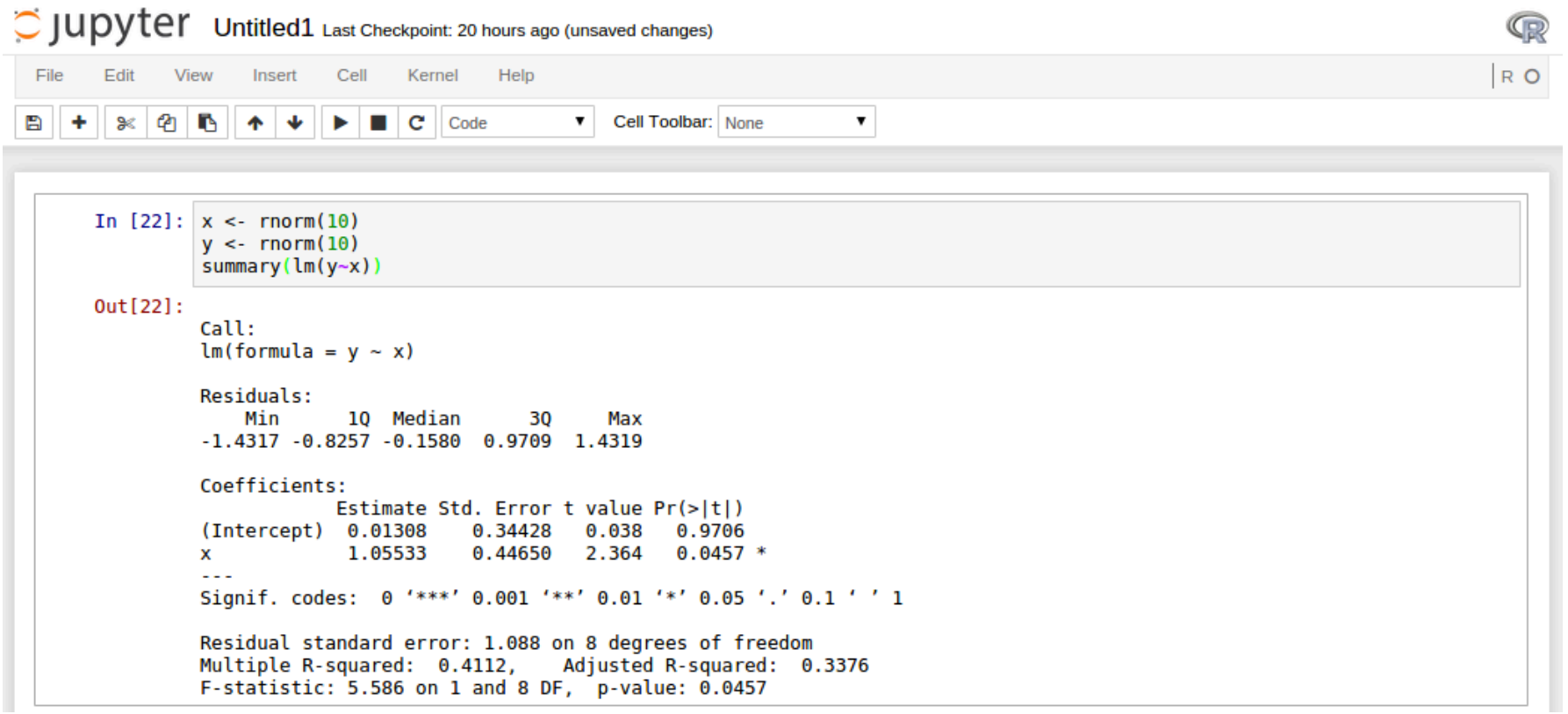
Combine live computer code, data, text and mathematics in one interactive document.

Academic papers only give a description of your analysis.

Jupyter notebooks contain both the description and the analysis itself.

The University Of Sheffield.

An Introduction to the tools we'll be using



The University Of Sheffield.

An Introduction to the tools we'll be using

Collaborative computational mathematics

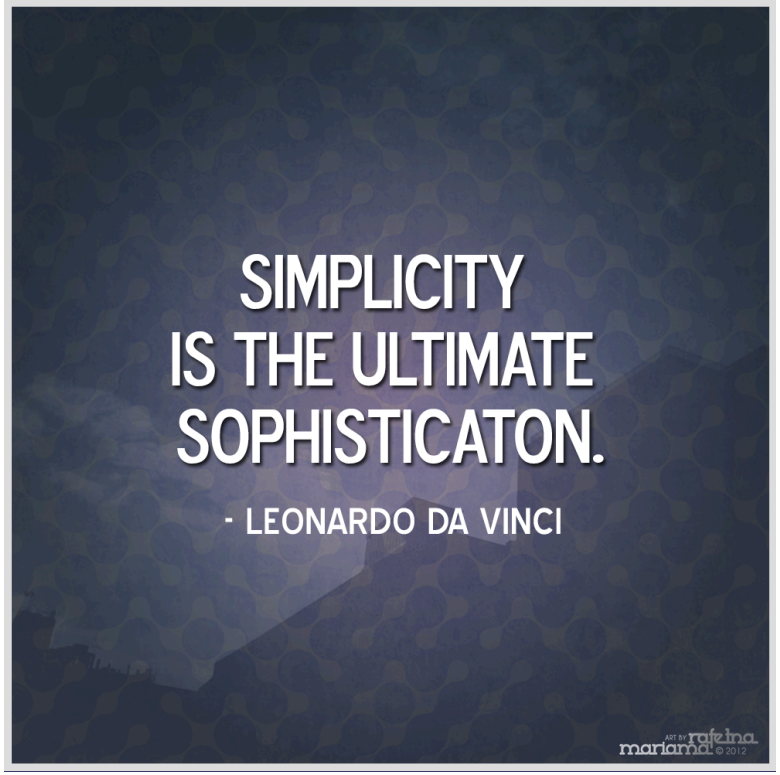
An open source environment for running Jupyter notebooks (and others!) in the cloud.

Dedicated Virtual Machine for this course on the Google Cloud Platform.

As powerful as a node on the Sheffield University Supercomputer: Iceberg

The University Of Sheffield.

An Introduction to the tools we'll be using



All you need is a web browser and internet connection.

THE 1ST STUDENT EXPERIENCE SURVEY 2014-15

The University Of Sheffield.

Log into SageMathCloud
https://cloud.sagemath.com/